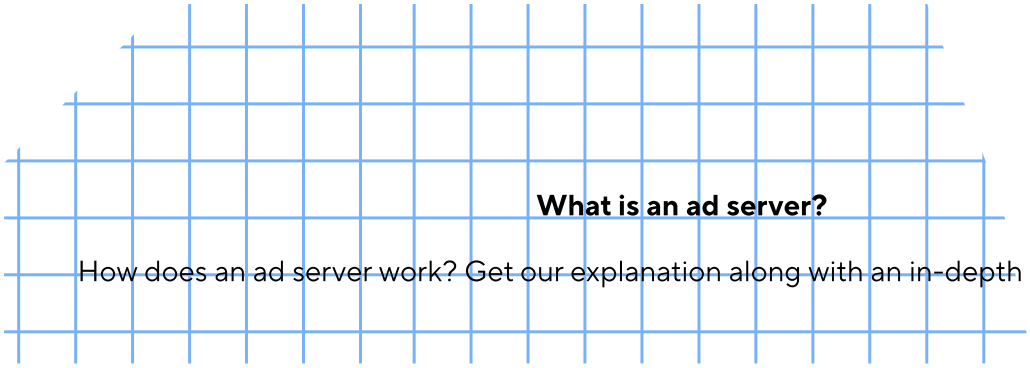


What is an ad server?

How does an ad server work? Get our explanation along with an in-depth ad server definition.

Related terms

Glossary > What is an ad server?

Ad server definition

An ad server is a technological system that acts as a centralized platform for ad management and decides instantly which ads are best suited to show on a publisher's website or app. Top ad serving platforms allow marketers to upload creative assets, set parameters, and track campaign performance.

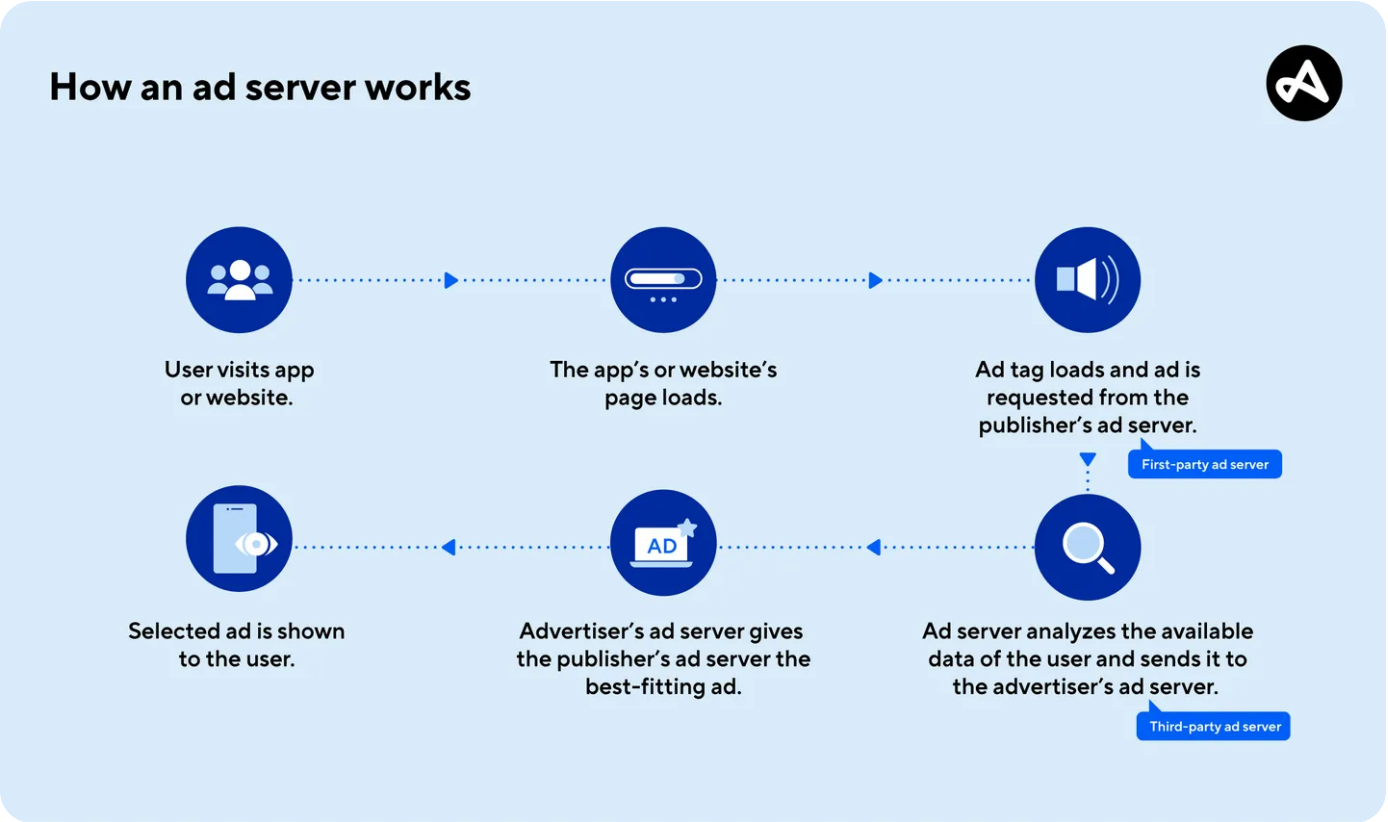
How does an ad server work?

In short, an ad server works to serve an ad when a user visits a website or app by matching the publisher's and advertiser's requirements to the information retrieved about the user to deliver a relevant ad. But we're guessing you want to know the more technical answer to the question:

How is a display ad served through an ad server?

Once a user opens a page on a website or an app and it loads, an ad is requested from the publisher's ad server. Next, the ad server quickly analyzes the available data of the user, such as language, device operating system, URL of page, device ID (if opted-in to ATT on iOS), and any additional information. Then the advertiser's ad server gives the publisher's ad server (we'll review the difference between these two servers in a bit) the most relevant ad based on the user's information and the advertising campaign settings like budget, audience segment, etc., and this is the ad that is shown to the user.

Meta EX1029
IPR2024-00528
U.S. Patent No. 8,249,932



How is an ad served to a user so quickly?

Around 90% of digital ads are delivered via Real-time bidding (RTB) technology, which is a type of programmatic ad serving or programmatic media buying. RTB within a supply-side platform (SSP) or an ad exchange allows for the instant auction for the buying and selling of digital ads in real time. RTB lets an ad server serve ads to users within the time it takes an app's page to load.

The other two types of programmatic ad serving are:

1. **Programmatic direct**: This ad serving type is when a publisher doesn't participate in an auction, but sells its media inventory at a fixed cost per mille (CPM) to advertisers.

2. **Private marketplace (PMP):** As the name suggests, this is an invitation-only marketplace by which publishers allow select advertisers to participate in their private auctions.

To learn more about programmatic ad serving, read Programmatic advertising explained: Everything you need to know.

Difference between first and third-party ad servers

As promised, here we'll cover the difference between first-party and third-party ad servers. In reality, however, the divide between the two server types is hardly visible as most advanced

mobile ad servers are able to act as both a first and a third-party ad server. Just note that the technical functions of each differ from the one another, which we cover below.

First-party ad servers

First-party ad servers are used by supply-side platforms (SSPs), and publishers. This server type, also known as a publisher-side ad server, is utilized to manage ad placements and inventory as well as create ad tags, which are used to match placements with specific ad creatives.

Third-party ad servers

In contrast, ad agencies and demand-side platforms (DPSs) are the main users of third-party ad servers, which are also called advertiser-side servers. Marketers employ this server type to manage their campaigns and creatives, targeting, and sometimes analytics and optimization.

How do these two server types work together?
In a nanosecond, these two work together like this: The first-party ad server processes and packages the retrieved user data and then forwards it to the third-party ad server. The latter selects the best-suited creative per campaign requirements and sends it to the publisher's ad server, and the ad is shown to the user.

And what about an open-source ad server?
Open-source ad servers, also called self-hosted ad servers, offer similar functionality to third-party ad servers, providing advertisers the ability to serve ads in apps and collect data regarding impressions, clicks, and conversions.

The only difference? An open-source ad server is free for advertisers to use. While the code is typically free, advertisers will still need to pay and upkeep their own servers, likely requiring an internal team to do so.

How ad servers are measured
The performance of ad servers is measured by several event-driven delivery metrics. As ad servers charge fees related to delivering ads to viewers based on analytics, format, channel, and viewability metrics, knowing which metrics are most commonly used to track them is vital.

Key metrics associated with an ad server:

- Impressions/viewable impressions/(CPM)/(vCPM)/(eCPM)

- Requests
- Cost-per-click (CPC)
- Click-through rate (CTR)
- Fill rate
- Discrepancy

Psst—If you need help collecting and cleaning your attribution and ROI measurement data, check out Adjust's end-to-end measurement suite. We even have an analytics solution, Datascape, that lets you view all your marketing data in one place for smarter, faster decisions.

Ad network vs. ad server vs. ad exchange explained

The terms surrounding ad serving technology may sound similar, but to fully understand the mobile ad server ecosystem, it's essential to distinguish them from each other. Below, we dive into the differences between ad exchanges, ad networks, demand-side platforms (DPSs), and ad servers.

Ad network vs. ad server

As advertisers typically don't have time to sort through available ad inventory themselves, they turn to an ad network. Ad networks are the intermediaries between SSPs (on the side of first-party ad servers) and DSPs (on the side of third-party ad servers).

They collect ad inventory, sort through them based on pricing, audience, and other parameters set by the demand sources, and resell them in order to maximize the advertisers' profits. **Think of the ad network as governing the transactional aspect of ad selling**. It allows advertisers to negotiate directly with the publishers.

In contrast, **an ad server is responsible for streamlining the selling, delivering, and tracking of ads with their ad server** application program interfaces (APIs). Its pricing is based on either a flat

fee, percentage of total ad spend, or extra CPM-based charges.

Ad server vs. DSP vs. ad network

When discussing the topic of ad server vs. DSP, remember that a DSP is not an ad network, but instead is a technology platform through which advertisers can buy ad space programmatically. So, it still has the transactional aspect of an ad network, and differs from the ad server in this regard, but by definition, a DSP automates the process of bidding on and buying ad impressions and ad targeting. Think of DSP as the evolution of the traditional ad network. As time goes on, the lines between the two blur, but most advertisers today are utilizing a DSP.

Ad exchange vs. ad server

As stated above in the ad server definition, an ad server is the technology powering advertisement delivery based on the publishers' and advertisers' requirements and the received data of a user. On the other hand, an ad exchange acts as the marketplace through which advertisers can purchase ad space from multiple ad networks. Note that the ad exchange is regulated chiefly by RTB.

See the comparison table below for the key differences between an ad server, ad exchange, and an ad network.

Differences between ad networks, ad exchanges, and ad servers

	Ad network	Ad exchange	Ad server
Purpose	**Transacts ad buys**	**Is the ad market**	**Delivers ad**
Description	Aggregates, sorts, and re-sells matching inventory according to demand criteria	Acts as a marketplace for the selling and buying of ad inventory	Dynamically serves and tracks ads based on publishers' and advertisers' requirements
Pricing options	Allows advertisers to negotiate directly with publishers	Regulated by real-time bidding	Flat fee, % of total spend, or extra CPM-based charges
Value	Aids advertisers in getting the best inventory; also reselling ad inventory	Gives advertisers and publishers more control over inventory placement	Streamlines the process of selling, delivering, and tracking ads in real-time

Bonus: Programmatic ad serving vs. ad server

As you may recall, programmatic media buying is the use of automated technology to buy ads. Vendors utilizing programmatic ad serving—such as ad exchanges, SSPs and DSPs, and ad

networks—don't always allow the advertiser to manage all their creative assets within them, whereas an ad server does.

Ad server examples for your review

The following are five ad server examples for app marketers and developers.

1. Amazon Ad Server, of whom Adjust is a verified Amazon Ads partner, is a multichannel ad server built to streamline campaign management.

2. Google Ad Manager serves as the flagship ad server from Google, and is free to use.

3. Campaign Manager 360 is Google's centralized ad management and measurement system. It's known as one of the best ad servers for publishers, and its premium offerings come with a CPM fee.

4. AdButler offers flexible pricing for its self-serve marketplace, which includes a programmatic SSP.

5. Kevel serves up a suite of ad server APIs to help programmers build a customized ad server in weeks.

Bonus: The connected TV (CTV) ad server Innovid supports marketers in gaining impression-based insights. This CTV video ad server offers its always-on global software solution InnovidXP for cross-platform, real-time TV measurement.

Check out more top ad-serving platforms, DSPs, SSPs, ad agencies, and ad network partners that are Adjust-certified and through which we offer integrations in our Partner Marketplace.

Ad servers and Adjust

Most app developers opt to use a pre-existing ad server rather than spending resources building and maintaining their own. But because they don't own the server, the data accuracy, and—more

importantly for app marketing—the attribution numbers they receive, may not be protected from fraud and bias.

This is where Adjust comes in.

With real-time fraud prevention and expansive, customizable, and accurate mobile attribution, app marketers can measure and optimize their campaigns with confidence. If you're ready to see how Adjust can fast-track your app's growth, request your personalized demo now!

Be the first to know. Subscribe for monthly app insights.

Enter your email to get our newsletter.

Do you have an app? *

By submitting this form, I confirm that I agree to the collection and processing of personal data by Adjust, as further described in the Privacy Policy.

Subscribe

Pricing

Solutions

iOS & SKAN

CTV & OTT

ROI Measurement

Fraud Prevention

Why Adjust

Why Adjust

Security and privacy

Partner marketplace

Success stories

Company

About us

Careers

Newsroom

Resources

Blog

Webinars

Ebooks

Guides

Glossary

Partner Benchmarks

Adjust Help Center

An AppLovin company

© 2024 Adjust GmbH. All rights reserved

Data Preferences Legal Notice Privacy Policy CCPA Terms

Forget Device Service Status